1.0 POLICY

It is the policy of Calvin College to comply with 29 CFR 1910.147, Control of Hazardous Energy Sources, adopted under MIOSHA as General Industry Safety Standard Part 85.

2.0 PURPOSE

The purpose of the Lockout/Tagout (LO/TO) program is to establish energy control procedure and maintain safe working conditions during set up, servicing and maintenance of machines, presses, and systems where the unexpected start-up or release of stored energy of machines could cause injury to Calvin employees and/or contractor employees.

3.0 DEFINITIONS

- Authorized Employee
  An employee who locks out or tags out machines or equipment in order to service or maintain them.
  All authorized employees must successfully complete the required training.

- Affected Employee
  An employee whose job requires him/her to operate or use a machine or equipment on which servicing or maintenance is being performed under LO/TO.
  An employee whose job requires him or her to work in an area in which such servicing or maintenance is being performed.
  An affected worker cannot perform work under a LO/TO permit.

- Contractor
  Any individual or firm working at the college that is not a college employee.

- Other Employee
  Those employees whose work operations are or may be in an area where energy control procedures are utilized.

- Servicing and/or maintenance:
  Workplace activities such as constructing, installing, setting up, adjusting, inspecting, modifying and maintaining or servicing machines or equipment. Activities include lubrication, cleaning or unjamming of machines or equipment, and making adjustments or tool changes.

- Energy Isolating Device
  Device that prevents the transmission or release or energy.
  An "energy source" is any source of electrical, mechanical, hydraulic, pneumatic, chemical, thermal, or other energy.

- Lockout
Placement of a locking device on an energy-isolating device that ensures the equipment being controlled cannot be operated until the lockout device is removed.

“Lockout device” is a device that utilizes a positive means such as a lock, either key or combination type, to hold an energy-isolating device in the safe position.

- Tagout
  Is the placement of an attachable tag on an energy-isolating device to indicate that the energy isolating device and the equipment being controlled may not be operated until the tagout device is removed.

- Tagout Device
  Is a prominent warning device, such as a tag and a means of attachment, which can be securely fastened to indicate that the energy isolating device and the equipment being controlled may not be operated until the tagout device is removed.

**4.0 RESPONSIBILITIES**

- President
  o Has overall responsibility for ensuring safety of the workplace by seeing that appropriate safety procedures are established and enforced.
  o He supports the LO/TO program by providing adequate financial and human resources to effectively carry it out.

- Environmental Health and Safety
  o Has overall responsibility for the development of employee training.
  o Will maintain and distribute LO/TO procedures.
  o Responsible for the development and delivery of employee training programs, distribution and maintenance of the master copies of all LO/TO procedures.
  o Reviews recommendations made by Physical Plant employees.
  o Monitors changes in federal or state regulations pertaining to the control of hazardous energy.
  o Provides technical safety assistance.
  o Investigates any LO/TO incidents.
  o Conducts audits to determine the effectiveness of the program.

- Assistant Directors
  o Responsible for ensuring that equipment specific LO/TO procedures are developed for all equipment within their area of responsibility.
  o Responsible for reviewing all contractors’ LO/TO procedures.
  o Responsible for informing contractors of Calvin specific procedures.
  o Responsible for issuance of locks, lockout devices
  o Responsible for issuing LO/TO permits.
  o Ensure that each procedure is followed by each employee.
  o Ensure that the specific LO/TO procedures are followed at all times.
  o Ensure that authorized, affected and other employees have received training in the procedures.
Assist in investigation of accidents which occur under LO/TO conditions.
Ensure that all accidents are thoroughly investigated and “Report of Hazardous Condition” is completed and returned to EH&S.

- **Authorized Employees**
  - Responsible for following all equipment specific LO/TO during the servicing, set up, maintenance and repair of equipment.

- **Affected and Other Employees**
  - Do not removing or defeating LO/TO state.
  - Required to stay out of the danger zone of maintenance/repair operations.

### 5.0 PROCEDURES

- **General Lockout Steps**
  - The Assistant Director will designate an authorized employee who will be responsible for notifying all affected employees that the machine will be locked out.
  - If the machine or equipment is operating, the authorized employee will shut down by the normal stopping procedure. The authorized employee will turn off energy control(s) on the equipment, then turn off and lockout all energy sources according to the equipment specific LO/TO procedure sheet.
  - The authorized employee(s) will lockout and/or tagout the energy isolating devices with their assigned individual lock(s) or tag(s).
  - Stored energy such as springs, elevated machine members, rotating flywheels, hydraulic systems and air, gas, steam or water pressure must be dissipated or restrained. After ensuring no personnel are exposed, the authorized employee will test the lockout by trying to operate the equipment.
  - The authorized employee will then return the operating controls to the “neutral” or “off” position.
  - The equipment is now locked or tagged out.

- **Lock Removal and Inspection**
  - After the servicing and/or maintenance is complete and the equipment is ready for normal production operations, before lockout and/or tagout devices are removed or restored to the machine, the authorized employee will:
    - Inspect the work area to ensure that tools and other items have been removed and that other components of the machine are operationally intact.
    - Replace any guards that may have been removed.
    - Check the work area to make sure that all employees or contractor personnel have been removed or safely positioned.
  - If LO/TO devices must be temporarily removed to test or position a machine, the authorized employee must take the following steps:
    - Clear the machine of equipment or tools.
- Ensure that all employees or contractor personnel are removed or in a safe position.
- Remove LO/TO devices as stated in the equipment specific procedure.
- Energize the equipment and proceed with testing or positioning.
- De-energize the equipment and replace the LO/TO devices as outlined in the procedure. Continue with the servicing and/or maintenance.
  - The authorized employee can then start the machine or equipment according to the procedures.

- **LO/TO Procedures Involving More Than One Person**
  - **Process 1:**
    - In a case where there is more than one individual required to lockout or tagout equipment, the assistant director will designate one employee who has responsibility for group lockout.
    - Each authorized person will place his/her assigned LO/TO device on the energy isolating device(s).
    - Multiple LO/TO device (hasp) will be used in situations where an isolating device cannot accept multiple locks or tags.
  - **Process 2:**
    - Single lock may be used but the key must be secured inside lock out box or a cabinet.
    - Lock out box or a cabinet will be secured by each authorized employee involved in a task.
    - Lead authorized employee is not allowed to remove his/her lock from the lock out box/cabinet until he/she is assured of the following:
      - All work is completed.
      - All start up procedures have been followed.
      - All unnecessary equipment removed.
      - All employees and contractor personnel are accounted for.

- **Removing LO/TO Devices by Other Than the Employee Who Applied the Device:**
  - The lead authorized employee will verify that the authorized employee who applied the lock is not on the property.
  - The lead authorized employee will make reasonable efforts to contact the employee to inform him/her that their lockout device has been removed by doing the following:
    - Call the employee’s cellular phone.
    - Call the employee’s home phone.
    - Call any other emergency contacts listed by the employee.
  - The lead authorized employee will complete a lockout removal record and turn it to EHS.
  - After completion of the form, the head authorized employee will cut the lock and then apply his/her own lock.

### 6.0 TRAINING
- All employees who conduct servicing and/or maintenance on equipment or machines will be trained regarding this policy and procedures.
• Personnel who must remove or bypass a guard for servicing or maintenance during normal production operations will be trained regarding this policy and procedures.
• Contractor personnel who will be expected to follow the LO/TO procedures of Calvin College will be trained regarding this policy and procedures.
• Retraining of employees will be conducted whenever one or more of the following conditions exist:
  o There is a job reassignment to a job that has written LO/TO procedure.
  o There is a change in equipment or machinery which introduces a new source of hazardous energy or which modifies the existing lockout procedure for that unique piece of equipment.
  o There is a change in the LO/TO policy or program that impacts all authorized, affected and other employees.
  o A periodic inspection/audit reveals that an existing lockout procedure is inadequate or that employees have inadequate knowledge and skills in the equipment specific or general policy and procedures.

7.0 PERIODIC INSPECTIONS/AUDITS
• The Physical Plant Director will designate one of the authorized employee to conduct inspection of the LO/TO procedures.
• When inspections reveal deficiencies in the LO/TO program, the inspector will inform the Physical Plant Director in writing.
• Physical Plant Director is responsible for ensuring that any deficiencies are promptly corrected.
• The Hazardous Energy Control program will be audited by Environmental Health and Safety on an annual basis.

8.0 OUTSIDE CONTRACTORS
• The supervisor requesting contractor services will notify outside contractors who have employees engaged in activities that require lockout of the LO/TO policy.
• All contractors must abide by Calvin College’s lockout procedures to ensure safety of the contractor’s personnel and Calvin employees.
• Contractors will be required to submit a written copy of their LO/TO procedures and program to Calvin College for review prior to beginning any work that requires LO/TO.
• If the contractor’s policies and procedures are found to be more stringent than Calvin’s, the contractor can be exempted from following our procedures.
• The Assistant Director(s) will ensure that Calvin employees understand and comply with the contractor’s energy control procedures and rules.
• The Assistant Director requesting contractor services will be responsible for notifying EH&S when contractor will be employed.

9.0 PROGRESSIVE DISCIPLINE
• If any of the procedures outlined in this policy are not followed by the employees and/or contractors, Calvin College will take a disciplinary actions which may include:
- Verbal warning
- Written warning
- Time off
- Termination

10.0 Revisions

<table>
<thead>
<tr>
<th>Revision</th>
<th>Date</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2/2/2010</td>
<td>Reformatting of policy</td>
</tr>
<tr>
<td>Annual Review</td>
<td>10/7/2010</td>
<td>Corrected formatting errors</td>
</tr>
</tbody>
</table>
# APPENDIX A

## LIST OF AUTHORIZED LOCKOUT/TAGOUT EMPLOYEES

<table>
<thead>
<tr>
<th>Name</th>
<th>Lock Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Luke DeVries</td>
<td>3220</td>
</tr>
<tr>
<td>Mike Feys</td>
<td>3221</td>
</tr>
<tr>
<td>Marc Huizinga</td>
<td>3222</td>
</tr>
<tr>
<td>Doug Kok</td>
<td>3223 &amp; 3754</td>
</tr>
<tr>
<td>Clayton Meyer</td>
<td>3224</td>
</tr>
<tr>
<td>Paul Pennock</td>
<td>3225</td>
</tr>
<tr>
<td>David Pfruender</td>
<td>3226</td>
</tr>
<tr>
<td>Charlie Huizinga</td>
<td>3227</td>
</tr>
<tr>
<td>Dan Slager</td>
<td>3228</td>
</tr>
<tr>
<td>Bob VandenBerg</td>
<td>3229</td>
</tr>
<tr>
<td>Larry VanHoe</td>
<td>3230</td>
</tr>
<tr>
<td>Don Winkle</td>
<td>3231</td>
</tr>
<tr>
<td>Mike Cannady</td>
<td>3232</td>
</tr>
<tr>
<td>Geoff VanBerkel</td>
<td>3233</td>
</tr>
<tr>
<td>Carl Hordyk</td>
<td>3234</td>
</tr>
<tr>
<td>David Brasser (student worker)</td>
<td>3235</td>
</tr>
<tr>
<td>Perry Gooch</td>
<td>3236</td>
</tr>
<tr>
<td>Doug Huizenga</td>
<td>3237</td>
</tr>
<tr>
<td>Jeremy Bush</td>
<td>3238</td>
</tr>
<tr>
<td>Phil Jaspers</td>
<td>3239</td>
</tr>
<tr>
<td>Geoff VanBerkel</td>
<td>3356</td>
</tr>
<tr>
<td>Carl Hordyk</td>
<td>3357</td>
</tr>
<tr>
<td>David Brasser (student worker)</td>
<td>3358</td>
</tr>
<tr>
<td>Perry Gooch</td>
<td>3359</td>
</tr>
<tr>
<td>Doug Huizenga</td>
<td>3360</td>
</tr>
<tr>
<td>Jeremy Bush</td>
<td>3361</td>
</tr>
<tr>
<td>Phil Jaspers</td>
<td>3362</td>
</tr>
</tbody>
</table>
APPENDIX B

Example Procedure

<table>
<thead>
<tr>
<th>Equipment ID: PMP-3501-01</th>
<th>Lockout/Energy Control Procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domestic Hot Water Pump</td>
<td>Building: Bennick Hall</td>
</tr>
<tr>
<td><strong>Purpose</strong>: To establish a proper procedure for the energy isolation of this machine</td>
<td></td>
</tr>
<tr>
<td>For Use By Trained* and Authorized Personnel Only</td>
<td></td>
</tr>
<tr>
<td>Location/Room: Basement</td>
<td></td>
</tr>
</tbody>
</table>

*If you have not been trained or have questions / concerns about this procedure contact the Safety Department.

**NOTE:**

- Each authorized employee in the work crew must attach their own personal lock upon the appropriate energy isolating device or devices and remove it upon departure from the assignment.
- Each authorized employee in the work crew must verify or observe the de-energization of the equipment.

<table>
<thead>
<tr>
<th>Required Safety Equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 Locks</td>
</tr>
<tr>
<td>1 Circuit Setter Lockout Device</td>
</tr>
</tbody>
</table>

1. Prior to initiating all lockout procedures, notify all affected employees in the work area.
2. Shut down the equipment/machinery using normal operating procedures. Ensure That All Equipment Has Come To A Complete Stop. Use the following procedures to shut down each source of energy, LOCK IT OUT and VERIFY that the equipment is at a ZERO ENERGY state.

3. **Main Electrical Disconnect – 110 VAC**
   - Locate main electrical disconnect switch on the wall.
   - Place the switch in the “off” position to open the electrical circuit.
   - Attach lockout device.
   - **Verify Isolation**: Attempt to start equipment.

4. **Domestic Hot Water Inlet Shutoff Valve – 70 PSI**
   - Locate water shutoff valve.
   - Turn ball valve handle clockwise to the off position.
   - Attach lockout devices.
   - **Verify Isolation**: Open the drain valve.

5. **Domestic Hot Water Outlet Shutoff Valve – 70 PSI**
   - Locate water shutoff valve.
   - Wrench circuit setter closed.
   - Attach lockout devices.
➢ **Verify Isolation:** Open the drain valve.

**Note:** Block, Support, Pin Or Otherwise Immobilize Any Equipment Or Machinery That Must Remain Elevated, Opened, Closed, In A Forward Or Retracted Position, Or Stationary During Servicing.

**THIS MECHANICAL SYSTEM IS NOW LOCKED OUT**

**DO NOT ATTEMPT TO OPERATE ANY SWITCH, VALVE OR OTHER ENERGY ISOLATING DEVICE**

Restoring Machine/Equipment to Service
6. Replace all guarding and safeguards.
7. Remove all non-essential tools and equipment.
8. Make sure all personnel are clear of machine.
9. Remove energy control devices. (Make Sure Locks Are Removed ONLY By Those Workers Who Attached Them)
10. Inform affected employees that servicing and maintenance is complete.
11. Restore Power And Verify Operation.
APPENDIX C

LOCKOUT REMOVAL RECORD

Date: __________ Time: __________ Equipment: ____________________________

Name of Lock Owner: ________________________________

Has the Lock Owner been located? Yes No

What were the results of your attempts to locate the lock owner?

________________________________________________________________________

________________________________________________________________________

Name of person removing lock/tag/lockout device: ______________________________

I certify that equipment/process and employee safety have been assured and that the
above lock/tag/lockout device may be safely removed.

Signature: ________________________________

Job Title: ________________________________

The above listed lock owner was informed that his/her lock had been removed on (date)
______________ by (name/job title) ________________________________.

Cc:

Lock Owner Supervisor ______________________________

Lock Owner ______________________________

EH&S ______________________________
APPENDIX D

Contractor Notification of Lockout/Tagout Policy and Procedures

Calvin College has developed a Hazardous Energy Control (Lockout/Tagout) program to protect its employees during maintenance and servicing of equipment and machines. I have received a copy of those procedures and understand the responsibilities that my company, as a contractor of Calvin College, and my individual employees have under this program.

Contractor Name: _________________________________________
Contractor Representative: __________________________________
Date Notified: ___________

I certify that the following employees of our company have received instruction regarding the Calvin College Hazardous Energy Control Program requirements and the specific procedures of the equipment that they will be working on.

<table>
<thead>
<tr>
<th>Contractor Employee Name</th>
<th>Date Notified/Trained</th>
</tr>
</thead>
<tbody>
<tr>
<td>_________________________</td>
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